Claims

1. Form-fill-seal machine for making bag-shaped packagings for products, such as edible products, from a web of foil material, such as synthetic foil, the machine comprising a frame having a stock of web of foil material and a supply of the web of foil material in flat condition, and a form-fill unit positioned at a front side of the machine, wherein the form-fill unit comprises a form shoulder for transforming the flat web of foil material into a foil tube, as well as a form-fill tube connecting to the form shoulder, having a vertical main plane of section, in which the machine furthermore comprises transverse sealing jaws that are positioned below the lower end of the fill tube for forming transverse seals in the foil tube and which are reciprocally moveable in a vertical plane perpendicular to the front side of the machine and the said vertical plane of section, the form shoulder being asymmetrically shaped for forming an overlap in the foil tube which extends to at least a short distance from or near the said vertical plane of section, wherein the machine is furthermore provided with first longitudinal sealing means that are positioned at a first side, at one lateral side of the form tube, as considered from the front side of the machine, preferably at a short distance from or near the said vertical plane of section, for forming a first, severable longitudinal seal at the location of the overlap.

2. Form-fill-seal machine according to claim 1, furthermore provided with second longitudinal sealing means positioned at a second side, at one lateral side of the form tube, as considered from the front side of the machine, opposite the first side, for forming at least one longitudinal seal in the foil tube.

3. Form-fill-seal machine according to claim 2, wherein two longitudinal sealing means are provided that are positioned at either side of, preferably

equidistanced from, the vertical plane of section.

4. Form-fill-seal machine according to claim 3, wherein the form-fill unit at the second side is provided with two protruding form strips for forming longitudinal folds in the foil tube, wherein the second longitudinal sealing means are positioned for sealing the longitudinal folds.

5. Form-fill-seal machine according to claim 4, wherein second longitudinal sealing means comprise an anvil/form member, that extends between both longitudinal folds for positioning them for sealing.

6. Form-fill-seal machine according to claim 1, wherein the position of at least one of the first and second longitudinal sealing means is adjustable in a direction towards/away from the fill tube.

7. Form-fill-seal machine according to claim 5, wherein the anvil/form member forms an interchangeable part.

8. Form-fill-seal machine according to claim 1, wherein the form-fill unit is detachably placed in the machine.

9. Form-fill-seal machine according to claim 1, wherein the form/fill tube at the first side at the lower end is provided with a first protrusion, situated in or near the vertical plane of section and extending downwards, and which in horizontal direction is free from the remainder of the lower end of the fill tube.

10. Form-fill-seal machine according to claim 9, wherein the first protrusion is pen- or lip-shaped.

11. Form-fill-seal machine according to claim 9, wherein the first protrusion with its end extends beyond the profile of the fill tube.

12. Form-fill-seal machine according to claim 9, wherein the form/fill tube at its lower end is furthermore provided with at least a second protrusion, which is at least situated at the second side and defines a recess with the first protrusion.

13. Form-fill-seal machine according to claim 12, wherein the second protrusion forms a sharp guiding edge, particularly substantially oriented towards the bottom.

14. Form-fill-seal machine according to claim 12, wherein two second protrusions are present, which extend on either side of the vertical plane of section and preferably keep an area free between them, in which area a fold-maker is able to extend, wherein the two second protrusions preferably are connected to each other by a plate, for instance a V-shaped plate, which is forming a cavity for the inwardly folded bottom area to be made.

15. Form-fill-seal machine according to claim 1, wherein the fill tube has a substantially rectangular cross-section, having the main sides substantially parallel to the vertical plane of section.

16. Form-fill-seal machine according to claim 15, wherein the first side of the form and fill tube is bent having a flat surface between bent transitions to the main sides.

17. Form-fill-seal machine according to claim 1, furthermore provided with means for arranging a strip of doublesided adhesive tape on the web of foil material in the area of the intended overlap.

18. Form-fill-seal machine according to claim 17, wherein the first longitudinal sealing means are positioned for arranging the severable longitudinal seal at the side of the strip of doublesided adhesive that faces away from the

outer longitudinal edge of the overlap.

19. Form-fill-seal machine for making bag-shaped packagings for products, such as edible products, from a web of foil material, such as synthetic foil, the machine comprising a frame having a stock of web of foil material and a supply of the web of foil material in flat condition, and a form-fill unit positioned at the front side of the machine, wherein the form-fill unit comprises a form shoulder for transforming the flat web of foil material into a foil tube, as well as a form-fill tube connecting to the form shoulder, having a vertical main plane of section, in which the machine furthermore comprises transverse sealing jaws that are positioned below the lower end of the fill tube for forming transverse seals in the foil tube and which are reciprocally moveable in a vertical plane perpendicular to the front side of the machine and said vertical plane of section, the form shoulder being asymmetrically shaped for forming an overlap in the foil tube which extends from a front side of the form tube to in a first lateral side, wherein the machine is furthermore provided with first longitudinal sealing means positioned near said first side, at one lateral side of the form tube, as considered from the front side of the machine, for forming a first, severable longitudinal seal at the location of the overlap.

20. Form-fill-seal machine according to claim 19, wherein the overlap ends at the first side at at least a short distance from or near the said vertical plane of section.

21. Form-fill-seal machine according to claim 20, wherein the first longitudinal sealing means are positioned at a short distance from or near the said vertical plane of section.

22. Form-fill-seal machine for making bag-shaped packagings for products, such as edible products, from a web of foil material, such as synthetic foil, the machine comprising a frame having a stock of web of foil material and a

supply of the web of foil material in flat condition, and having a form-fill unit, the form-fill unit comprising an asymmetrical form shoulder for transforming the flat web of foil material into a foil tube, while forming an overlap, as well as a form-fill tube connecting to the form shoulder, which tube has a substantially rectangular cross-section and which is positioned in the machine having a first main side facing away from the machine and a second main side facing the machine, wherein the form shoulder is designed for forming the overlap at at least the first or second main side, wherein the form-fill unit at a first short side of the form-fill tube is provided with two protruding form strips for forming longitudinal folds in the foil tube, wherein the form-fill unit is furthermore provided with first longitudinal sealing means for forming a first, severable longitudinal seal in the area of the overlap and with second longitudinal sealing means for forming second longitudinal seals at the location of the longitudinal folds, wherein the form-fill-seal machine is furthermore provided with means for applying a strip of doublesided adhesive tape on the web of foil material in the area of the intended overlap, wherein the form-fill-seal machine is furthermore provided with transverse sealing means positioned below the fill-form unit for forming transverse seals in the foil tube and with means for severing them at the location of the transverse seals.

23. Form-fill-seal machine according to claim 22, wherein the means for arranging the severable seal are positioned for arranging the severable seal at the side of the strip of doublesided adhesive facing away from the outer longitudinal edge of the overlap.

24. Form-fill-seal machine according to claim 22, wherein the second longitudinal sealing means are positioned at the second short side of the form-fill tube.

25. Form-fill-seal machine according to claim 22, wherein the first short side of the form-fill tube is bent having a flat surface between bent transitions to

the main sides.

26. Form-fill-seal machine according to claim 22, wherein the form-fill unit is detachably arranged on the frame.

27. Form-fill-seal machine according to claim 22, wherein the first longitudinal sealing means and/or the second longitudinal sealing means are detachably arranged on the frame.

28. Method for making bag-shaped packagings for products, such as edible products, in a form-fill-seal machine from a web of sheet material, such as synthetic foil, wherein the web of material is supplied in a flat condition to an asymmetrical form shoulder positioned at a front side of the machine and a connecting form/fill tube in order to be transformed there into a tube in which the longitudinal edges form an overlap, wherein the overlap is formed eccentrically with respect to a centre plane of the fill tube, which is perpendicular to the front side, and extends up to a lateral side of the fill tube, wherein the overlap, at a distance from the outer longitudinal edge of the overlap, at said lateral side, is secured onto the tube by arranging a severable, closing seal in longitudinal direction of the tube, after which the tube is filled, sealed closed by means of transverse seals extending perpendicularly to the tube and the centre plane.

29. Method according to claim 28, wherein the foil web is supplied to the form shoulder eccentrically with respect to the centre plane of the fill tube, which is perpendicular to the front side.

30. Method according to claim 28, wherein at the location of the overlap, in longitudinal direction of the tube an adhesive strip is applied for forming a closing means for the overlap on the packaging, which closing means can be used several times.

31. Method according to claim 30, wherein the adhesive strip is applied on the lower side of the foil web, in an edge area thereof.

32. Method according to claim 31, wherein the adhesive strip is adhered in the overlap at the foil area of the overlap that is situated on the inner side.

33. Method according to claim 28, wherein the tube is furthermore folded inwards in an area at a distance from the overlap, preferably at a second side of the fill tube situated opposite the first side, for forming two fold areas extending in longitudinal direction which between them define a bottom area, wherein the web material at the location of the fold areas is sealed together for forming two bottom longitudinal seals.

34. Method according to claim 33, wherein the bottom area is folded inwards by means of fold makers that are positioned immediately above and immediately below transverse sealing jaws.

35. Method according to claim 33, wherein exclusively said seals are arranged.

36. Method for making bag-shaped packagings for products, such as edible products, from a web of sheet material, such as synthetic foil, wherein the web of material is transformed from a flat condition into a tube wherein the longitudinal edges form an overlap, wherein the tube at the location of the overlap, at a distance from the outer longitudinal edge of the overlap, is secured onto the tube by arranging a severable closing seal in longitudinal direction of the tube, wherein furthermore at the location of the overlap, in longitudinal direction of the tube, a strip is arranged for forming a closing means for the overlap on the packaging, which closing means can be used several times, wherein the tube furthermore in an area at a distance from the overlap is folded inwards for forming two fold areas extending in longitudinal direction which in between them define a bottom area, wherein the web

material at the location of the fold areas is sealed together for forming two bottom longitudinal seals, after which the tube is filled, sealed closed by means of transverse seals extending perpendicularly to the tube and subsequently is separated into bags.

37. Method according to claim 36, wherein exclusively said seals are arranged.

38. Method according to claim 36, wherein for arranging the closing means a strip is supplied in the longitudinal direction of the tube, which strip is provided with adhesive on both sides.

39. Method according to claim 36, wherein the closing means is arranged situated at a distance from the outer longitudinal edge of the overlap which is smaller than the distance of the severable, closing seal to said edge.

40. Method according to claim 36, wherein the transverse seals are arranged over the severable, closing seal and the closing means.

41. Method according to claim 28, wherein the tube is formed on a vertical form and fill tube of a form-fill-seal machine, wherein the form tube gives the tube a substantially rectangular cross-section, of which the one, first main side faces away from the machine and the other, second main side faces the machine, wherein the transverse seals are arranged by means of transverse sealing jaws which in a vertical plane are moved transverse to the plane of the both main sides.

42. Method according to claim 41, wherein the overlap is arranged at the first main side.

43. Method according to claim 36, wherein the tube is formed on a vertical form and fill tube of a form-fill-seal machine, wherein the form tube gives the

tube a substantially rectangular cross-section, of which the one, first main side faces away from the machine and the other, second main side faces the machine, wherein the transverse seals are arranged by means of transverse sealing jaws which in a vertical plane are moved transverse to the plane of the both main sides.

44. Packaging for a mass of articles, such as sweets, viscous material, such as salad, wherein the packaging is bag-shaped and manufactured from a web of foil material which from a flat condition has been bent into a tube shape having an overlap and after that in filled condition is cut into (tube) sections for separating the manufactured packaging, wherein the packaging at the cutting edges of the section in question is sealed closed for forming side edges, wherein the packaging has two mains sides and a bottom area, which extends perpendicular to the side edges and forms two bottom edges which between them define an inwardly folded bottom strip and each with a connecting main side of the packaging form a sealed bottom seam, wherein the overlap extends over a main side and at a distance from its end edge is sealed to said main side by means of a closed but severable seal, and wherein the packaging at the location of the overlap is provided with means that enable repeated opening and closing of the packaging.

45. Packaging according to claim 44, wherein the bottom longitudinal seals and the transverse seals overlap each other in the corner areas that form the boundary of the inside of the packaging.

46. Packaging according to claim 44, wherein the means that enable repeated opening and closing of the packaging are situated between the severable longitudinal seal and the outer longitudinal edge of the overlap.

47. Packaging according to claim 44, wherein the means that enable repeated opening and closing of the packaging are formed by a strip of doublesided adhesive, preferably provided with a detachable protective strip.

48. Packaging according to claim 44, wherein the foil material is a laminate having situated at both its outer sides respective first and second layers of different synthetic material, wherein at the location of the severable longitudinal seal the first material is attached to the second material.

49. Form-fill-seal machine according to claim 1, designed as a continuously operative machine.

50. Form-fill-seal machine according to claim 1, designed as a step-wise or discontinuously operative machine.

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